Pushing the Envelope			
2009 Science Revised June 2010			
Learning Standards			
Washington Science Revised June 2010			
Grades 4-5			
Activity/Lesson	**State**	**Standards**	
Physics and Math (pgs. 43-63)	WA	SCI.4-5.4.4-5 PS3B.1	Draw and label diagrams showing several ways that energy can be transferred from one place to another (e.g., sound energy passing through air, electrical energy through a wire, heat energy conducted through a frying pan, light energy through space).
Pushing the Envelope			
2009 Science Revised June 2010			
Learning Standards			
Washington Science Revised June 2010			
Grades 6-8			
Activity/Lesson	**State**	**Standards**	
Chemistry (pgs. 25-41)	WA	SCI.6-8.4.6-8 PS2B.2	Demonstrate that the properties of a compound are different from the properties of the reactants from which it was formed.
Chemistry (pgs. 25-41)	WA	SCI.6-8.4.6-8 PS2F.1	Apply the concept of conservation of mass to correctly predict changes in mass before and after chemical reactions, including reactions that occur in closed containers, and reactions that occur in open containers where a gas is given off.
Physics and Math (pgs. 43-63)	WA	SCI.6-8.4.6-8 PS1C.1	Determine whether forces on an object are balanced or unbalanced and justify with observational evidence.
Physics and Math (pgs. 43-63)	WA	SCI.6-8.4.6-8 PS1C.2	Given a description of forces on an object, predict the object's motion.
Physics and Math (pgs. 43-63)	WA	SCI.6-8.4.6-8 PS1D.1	Given two different masses that receive the same unbalanced force, predict which will move more quickly.
Rocket Activity (pgs. 69-75)	WA	SCI.6-8.4.6-8 PS1C.1	Determine whether forces on an object are balanced or unbalanced and justify with observational evidence.
Rocket Activity (pgs. 69-75)	WA	SCI.6-8.4.6-8 PS1C.2	Given a description of forces on an object, predict the object's motion.
Rocket Activity (pgs. 69-75)	WA	SCI.6-8.4.6-8 PS1D.1	Given two different masses that receive the same unbalanced force, predict which will move more quickly.
Pushing the Envelope			
2009 Science Revised June 2010			
Learning Standards			
Washington Science Revised June 2010			
Grades 9-12			
Activity/Lesson	**State**	**Standards**	

Types of Engines (pgs. 11-23)	WA	SCI.9-12.4.9-11 PS1D.2	Calculate the acceleration of an object, given the object's mass and the net force on the object, using Newton's Second Law of Motion (F=ma).
Chemistry (pgs. 25-41)	WA	SCI.9-12.4.9-11 PS2G.3	Give examples of chemical reactions that either release or acquire energy and result in the formation of new substances (e.g., burning of fossil fuels releases large amounts of energy in the form of heat).
Physics and Math (pgs. 43-63)	WA	SCI.9-12.4.9-11 PS1C.1	Given specific scenarios, compare the motion of an object acted on by balanced forces with the motion of an object acted on by unbalanced forces.
Physics and Math (pgs. 43-63)	WA	SCI.9-12.4.9-11 PS1D.1	Predict how objects of different masses will accelerate when subjected to the same force.
Physics and Math (pgs. 43-63)	WA	SCI.9-12.4.9-11 PS1D.2	Calculate the acceleration of an object, given the object's mass and the net force on the object, using Newton's Second Law of Motion (F=ma).
Physics and Math (pgs. 43-63)	WA	SCI.9-12.4.9-11 PS1E.1	Illustrate with everyday examples that for every action there is an equal and opposite reaction (e.g., a person exerts the same force on the Earth as the Earth exerts on the person).
Rocket Activity (pgs. 69-75)	WA	SCI.9-12.4.9-11 PS1C.1	Given specific scenarios, compare the motion of an object acted on by balanced forces with the motion of an object acted on by unbalanced forces.
Rocket Activity (pgs. 69-75)	WA	SCI.9-12.4.9-11 PS1D.1	Predict how objects of different masses will accelerate when subjected to the same force.
Rocket Activity (pgs. 69-75)	WA	SCI.9-12.4.9-11 PS1D.2	Calculate the acceleration of an object, given the object's mass and the net force on the object, using Newton's Second Law of Motion (F=ma).